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ABSTRACT

Grouping students to facilitate instruction alone, instructional delivery systems which maintain student dependency on teachers, the practice of teaching to disseminate information without mastery, class norm-referenced grading practices, and study habits which focus on getting grades, help produce the educational dilemma faced today. In mastery learning, instructional objectives are hierarchical skill sequences from readiness to mastery. Student learning is compared to a fixed criterion (i.e., percent correct) tasks completed, objectives mastered, etc. These measures reveal the number of item or objectives that have been mastered and tests specifically identify students' concept weaknesses and strengths. Subsequent instruction either re-teaches in areas of weakness, or provides enrichment or extensions of the curriculum for students who have mastered the concepts. If any school system is to increase the expectations for student achievement, it must change from a norm-referenced placement, and competitive grading and instructional model, to a mastery methodology. (JD)

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HABITUATED OBSOLESCENCE OR THE PURSUIT OF INDIVIDUAL EXCELLENCE? COMPARATIVE VARIATIONS BETWEEN NORM-REFERENCED AND MASTERY LEARNING METHODOLOGIES*

W. Richard Wood, Ed.D.

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HABITUATED OBSOLESCENCE OR THE PURSUIT OF INDIVIDUAL EXCELLENCE?

COMPARATIVE VARIATIONS BETWEEN NORM-REFERENCED AND MASTERY LEARNING METHODOLOGIES*

W. Richard Wood, Ed.D.

An almost universal quest in education is to maximize each student's performance in relation to his or to her abilities. The current thrust for excellence calls for a critical evaluation of educational practices in terms of placing, teaching, grading, advancing and counseling students. An evaluation of the comparative variations between norm-referenced approaches to education and mastery learning approaches may clarify the operational differences which can facilitate the process of reaching individual excellence.

Norm-Referenced Methodologies

In the past, the goal for maximized student performance has been attempted through various processes to manipulate the school population into groupings to facilitate instruction. Students have been heterogeneously grouped by age and grade and homogeneously grouped by sex, intelligence, achievemant levels, course selections and handicapping conditions. Each rationale for grouping has pros and cons, however, studies which have evaluated achievement based on grouping arrangements have yielded conflicting results and have indicated that no specific grouping is best (Stephens, 1976).

Grading Practices

Norm-referenced grading practices, whether in hetero or homogeneous groupings, can be based on the ranking of accumulated points, mostly a combination of weighted test scores and homework assignments. The highest score merits an A grade and grades decrease from that score to the lowest which may receive an F grade. A comparative evaluation with another similar content class may have ranked scores which vary remarkably from the first class, but the grades are assigned through the same ranking procedure. Therefore, an A grade in one class may not be identical to an A grade in another class, and similar disparity exists for the lower grades. In this class-sized norm-referenced grading system grades are distributed by an approximate bell curve. This type of grading forces students to compete against each other for grades and tends to over-emphasize grades as an absolute measure of learning and to psychologically reinforce the relative position of one student in comparison to another. This normal curve model for grading discourages lower students' efforts to learn while giving higher students a false sense of achievement.

A second system for grading is the percentage approach. This system uses pre-determined percentages for grades, such as 90% and above is an A, 80% to 89% is a B, 70% to 79% is a C, 60% to 69% is a D and below 60% is an F. Although this approach is commonly used, slower students, or low

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motivated students, can pass a class without having mastered the concepts. This presents problems in subsequent learning experiences, since the concepts that should have been mastered were only partly learned. Successive years of partial learning create a progressive accumulation of confused concepts or academic deficiencies rather than eliminating them. Thus, advancement in grade level without mastery, compounds the problems of learning and discourages students' efforts. (Glaser, 1963)

In summary, the disadvantages to these norm-referenced systems of grading include:

1. The grade, rather than actual learning, may become the student goal of classroom instruction.
2. Study efforts, focussed on grades alone, may include: cram for test, take test, get grade, forget what has been learned sequence.
3. Credit for a D to an A grade is identical, therefore, equal credit is received for unequal work.
4. Students who receive "good" grades may not master the course content while other students may be conditioned by the system to expect a passing grade for minimal achievement.

The Teaching Process Under Norm-Referenced Instruction

Teacher-student-curriculum interactions have been analyzed by Sergiovanni and Elliott (1975). The teacher-centered approach places exclusive control for instruction, student achievement and motivation on the teacher. Teachers engage in "selling, persuading, convincing, appealing, and other human relations skills in order to get serious commitment from youngsters" (p.54). Students respond as dependent recipients to the learning opportunities provided. The child-centered approach creates a passive role for the teacher and abdicates the responsibility for learning almost completely to students, as in Summerhill or experimental forms of self-paced instruction. The curriculum-centered interactions use the textbook as the ubiquitous controller of instructional delivery. Teachers, in varying degrees, become followers of curriculum materials and givers of directions.

> "The question is not simply one of texts, materials, and curriculum, but one of control. Do teachers use texts, materials, and curriculum guides as a means to achieve individual and school goals, or are these ends in themselves?" (p. 55)

In addition to the issues related to teacher-student-curriculum interactions, another instructional variable, within any given curriculum, is the difference between teachers, their teaching methods and testing strategies. Where no common student learning outcomes exist among teachers, there may also be significant variations in the learning activities and methods for measuring students' learning from simple true-false tests to complicated essay questions. These variations in course content and student learning evaluations, compound the answer to the question of what is actually being taught and learned.

Although the classroom processes for teaching vary and no singular approach is continually used, Sarotnik (1983) examined the interactions within our classrooms through an evaluation of data accumulated from over 1,000 elementary and secondary classrooms. In summary, there was little variation in teaching practices:

> ... a lot of teacher talk and a lot of student listening, unless students are responding to teachers' questions or working on written assignments; almost invariably closed and factual questions; little corrective feedback and no guidance; and predominantly total class instructional configurations around traditional activities--all in a virtually affectless environment. It is but a short inferential leap to suggest that we are implicitly teaching dependence upon authority, linear thinking, social apathy, passive involvement, and hands-off learning. (p. 29)

In summary, grouping students to facilitate instruction alone, instructional delivery systems which maintain student dependency on teachers, the practice of teaching to disseminate information without mastery, class norm-referenced grading practices, a credit system which allows equal credit for A and D work, and study habits which focus on getting grades help produce the educational dilemma faced today. These practices will not produce excellence nor the inner strivings of the individual to achieve to his or to her potential. They are habits which are obsolete in relation to individual potential, the opportunities for increased learning an educational system can provide and the needs of society.

Is There a Need to Change?

The study of learning is a highly scientific and technical field of educational psychology. Contained in this field are principles of learning, such as: readiness, motivation, cognitive processes, contiguity of reinforcement (feedback mechanisms), transfer of learning and productive decision-making by the use of higher-level thinking skills. Learning, therefore, should not occur by trial and error, or by chance occurrence, nor should it be a static, monotonous or a boring experience. Rather, effective teaching requires an alertness to the developing abilities, thought patterns, skills and goals of the individual learner. To enhance the[illegible] capacities is a function of teaching and has increased students' desires to learn, sustained their efforts, improved standardized achievement scores and helped them become independently self-motivated. (Torshen, 1977; Rubin and Spady, 1984)

Mastery Learning Philosophy and Instructional Methods

The philosophical beliefs underlying mastery learning include:

1. Almost all students are capable of achieving excellence in learning the essentials of formal schooling.
2. The instructional process can be changed to improve learning.
3. Schools can maximize the learning conditions for all students.
4. Success influences self-concept which influences learning and behavior (Spady, 1981).

The teacher belief system which includes this philosophy requires a change in teaching methods. The act of teaching is not teacher, curriculum or student-centered, but a unified and cooperative teacher and student effort to master concepts. Student achievement is not arbitrary, nor student competitive, but based on specific expected and attainable outcomes. Mastery learning, sequenced objectives and directed instruction are built into the process of teaching students to acquire new skills (Vickery, 1983).

Uniform Objectives

The reasoning behind uniform objectives for each academic content area has been addressed by Englemann (1969).

> "The first step in constructing a program is to specify the objectives. An objective is an absolute criterion of performance that is to be achieved by the children through training. . .Suppose that every child in the class learned something, but no two children learned the same thing and none of the children could demonstrate at the end of the program that they had learned the skills he was supposed to have been taught." (pp. 27-28)

The objectives provide the framework for the learning activities that are necessary for students to successfully advance from one task to another. Objectives, which are unitedly determined by a teaching or department staff, eliminate teacher differences as a learning outcome variable and will reduce the extraneous learning activities which detract from students' learning the specified outcomes of instruction.

> "Getting teachers to think seriously about how their activities contribute or detract from intended educational goals is a critical part of any meaningful school improvement strategy." (Karweit, 1984, p.35)

In mastery learning instructional objectives are hierarchical skill sequences from readiness to mastery. Student learning is compared to a fixed critierion, i.e. percent correct, tasks competed, objectives mastered, etc. These measures reveal the number of items or objectives that have been mastered at a given criterion. The tests specifically identify students' concept weaknesses and strengths. Subsequent instruction, either re-teaches in areas of weakness, or provides enrichment or extensions of the curriculum for students who have mastered the concepts. Through this process the typical norm-referenced teacher-student interactions change to a cooperative teamwork relationship which unifies the efforts of the teacher and student to achieve pre-determined, and preferably publically accepted, objectives. Students become deliberate learners, with goals and specified objectives to evaluate their own progress. This approach focusses student educational activities on actual learning, not grades or minimal competencies, learning outcomes not learning by chance and decreases discipline problems because students' feel a need to achieve and to master the concepts being taught (Sergiovanni and Elliott, 1975; Torshen, 1977; Covington and Omelich, 1984).

Student Placement Under Mastery Learning

Placing students into instructional groups according to their levels of skill development is not a new concept but is different in the instructional philosophy it requires. Placement of students is not a random selection, nor an arbitrary process, but a systematic placement of students at their level of instructional readiness. This increases their capability to learn new information and their potential for mastery. Within this placement framework a variety of methods have been successfully used at both elementary and secondary levels (Torshen, 1977; Blum, 1984; Rubin and Spady, 1984).

Mastery Learning and Grading Standards

Grading is based on a specified criterion of the curriculum objectives a student has mastered. As an example, students who achieve 90% or more on a test of the stated objectives, receive an A Grade regardless of the class composition or teacher of the class. Test scores of 80% receive an I (incomplete) which means the objectives were not mastered. The meaning of achievement changes from an artificial grade to mastery of the concepts or objectives of a unit of instruction. As a result, students become more responsible for their own learning and are expected to achieve (Anderson, 1973; Covington and Omelich, 1984).

Formula for Successful Learning

Most students have average ability. If they study an average amount of time achievement will usually be a C grade (by norm-referenced standards). If they study more, grades will logically be higher. Therefore, the most important element of the formula for sucessful learning, is not ability, but effort. Several research articles delve more intricately into various dimensions of this formula (Torshen, 1977; Fredrick and Walberg, 1980; Brown and Weiner, 1984).

ABILITY X EFFORT = SUCCESSFUL LEARNING

If students know there is a criterion which must be achieved to master the concepts in a given class, their achievement will logically improve. Research summaries in Torshen (1977) demonstrated this result.

Effective School Research

An analysis of classroom processes frequently cited in the effective schools literature includes: increased academic expectations, amount of academic learning time, classroom management, curriculum congruence, direct teaching/instruction, monitoring of student progress and evaluative feedback, homework, parents' academic involvement with their own children, reinforcement of self-concept, rewards for achievement and teacher questioning practices (Nelson, 1984). These are all processes related to mastery methods of teaching and testing which will help to improve students' academic learning.

Spady and Marx (1984) have stated that:

> "Excellence occurs when the instructional system is able to provide the individual learner with an appropriate level of challenge and a realistic opportunity to succeed on a frequent and continual basis for each instructional goal in the program (p. 8)."

If any school system is to increase the expectations for student achievement and prepare students for the future it must change from a norm-referenced placement, competitive grading and instructional model to a mastery methodology which emphasizes the essential elements of effective instruction and the success of each student in mastering sequenced skills.

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